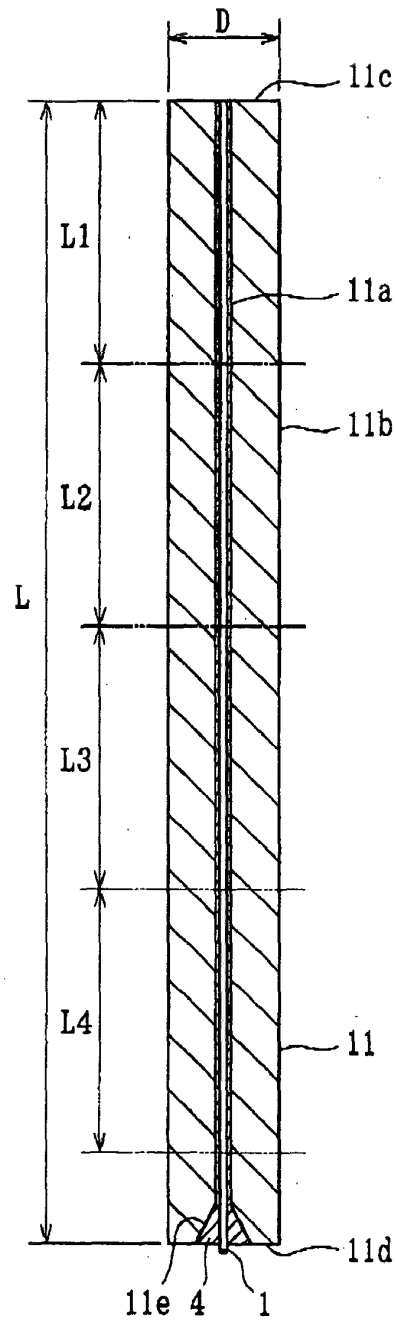


1/10

FIG.1



2/10  
FIG.2 (A)

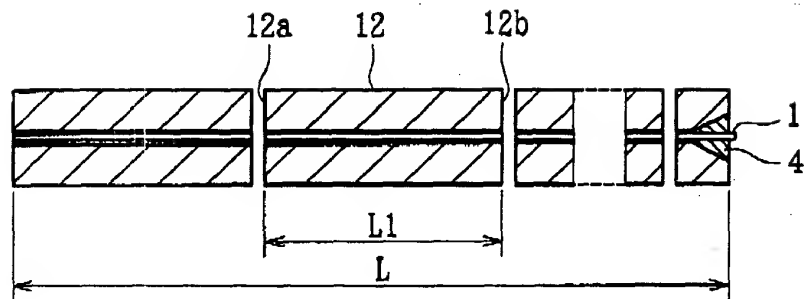


FIG.2 (B)

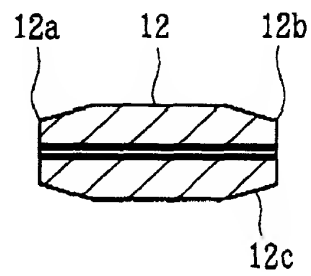


FIG.2 (C)

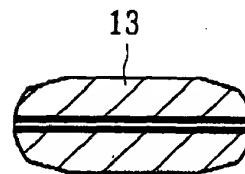


FIG.3 (A)

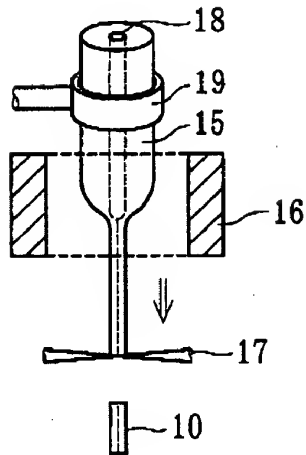


FIG. 3 (B)

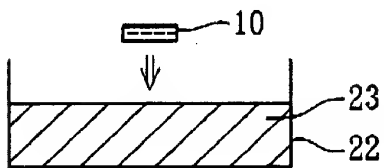


FIG. 3 (C)

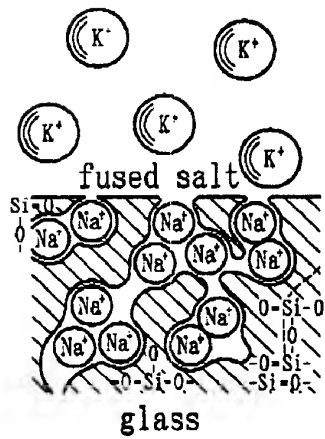
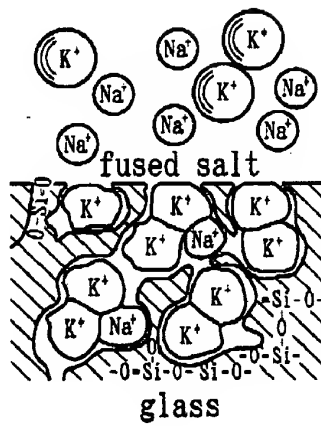


FIG. 3 (D)



4/10

FIG.4 (A)

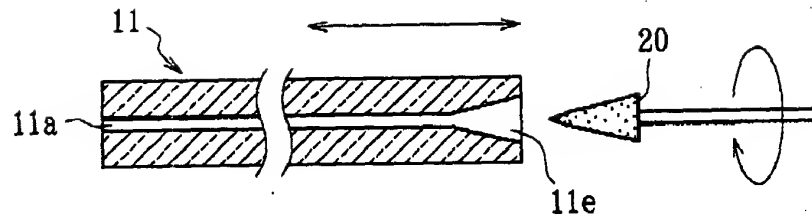


FIG.4 (B)

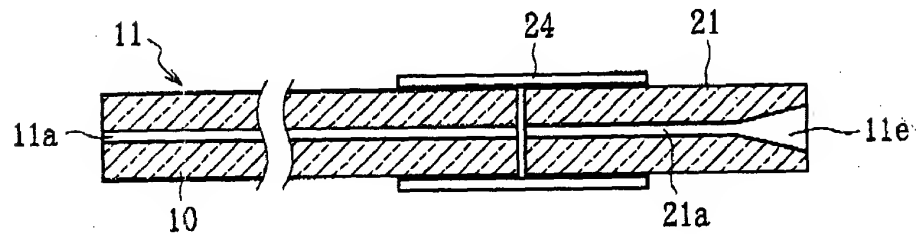
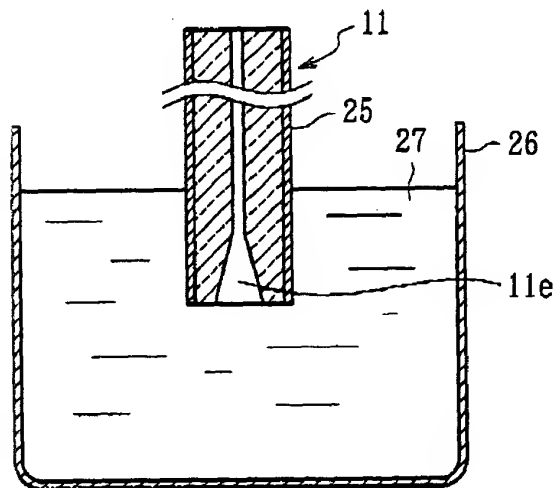


FIG.4 (C)



5/10

FIG. 5 (A)

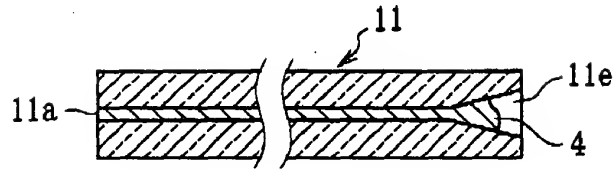


FIG. 5 (B)

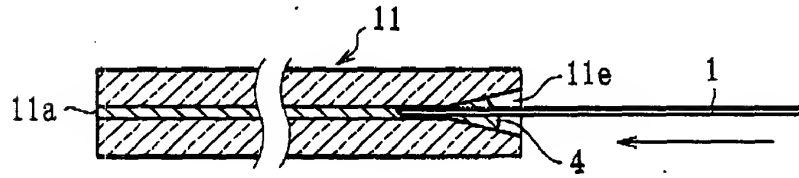


FIG. 5 (C)

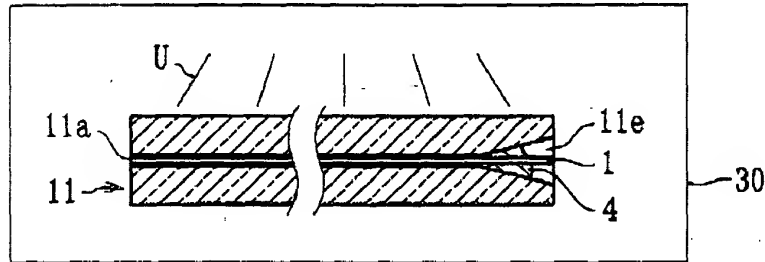


FIG. 5 (D)

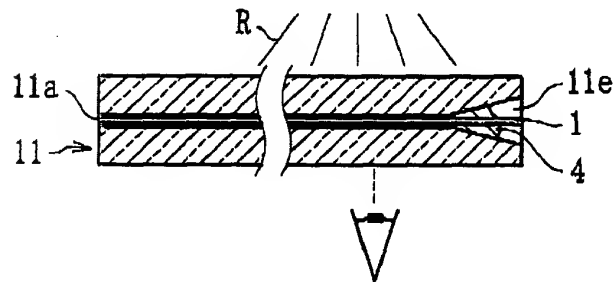


FIG.6 (A)

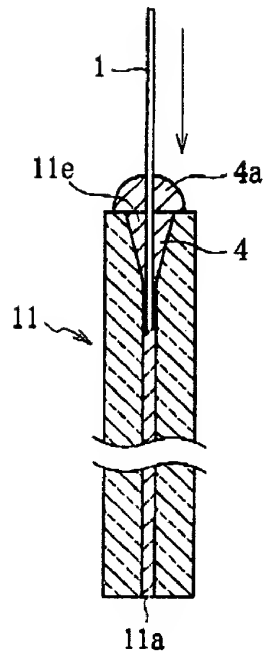


FIG.6 (B)

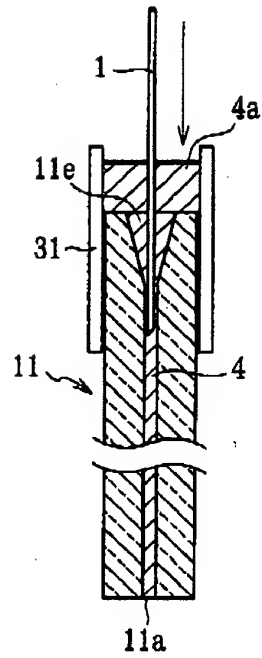


FIG.6 (A)

7/10  
FIG. 7 (A)

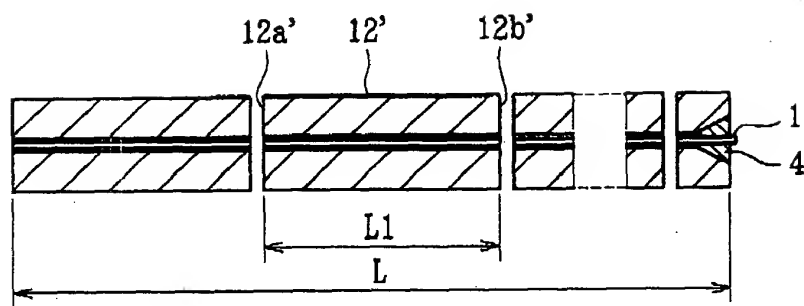


FIG. 7 (B)

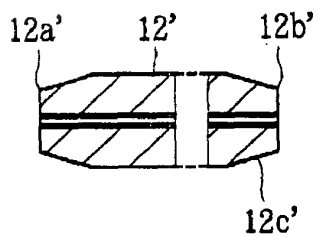


FIG. 7 (C)

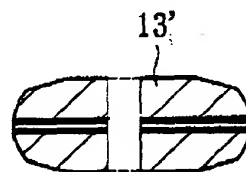


FIG. 7 (D)

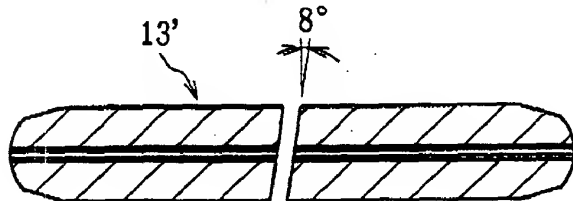
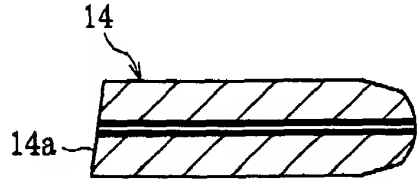


FIG. 7 (E)



8/10

FIG.8 (A) (PRIOR ART)

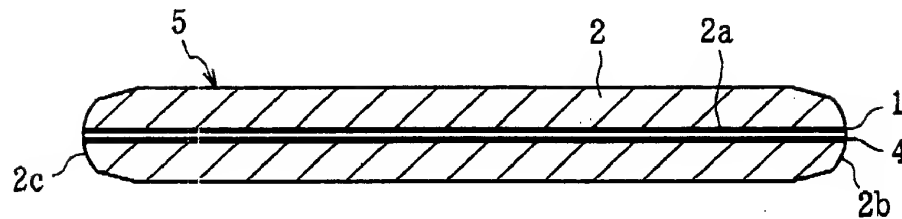


FIG.8 (B) (PRIOR ART)

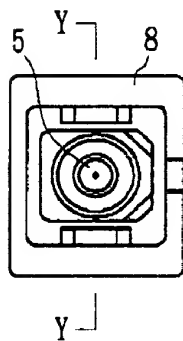


FIG. 8 (C) (PRIOR ART)

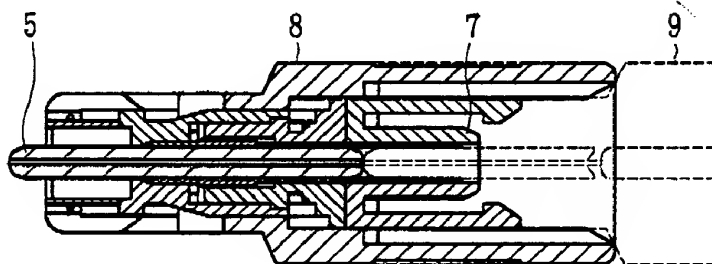
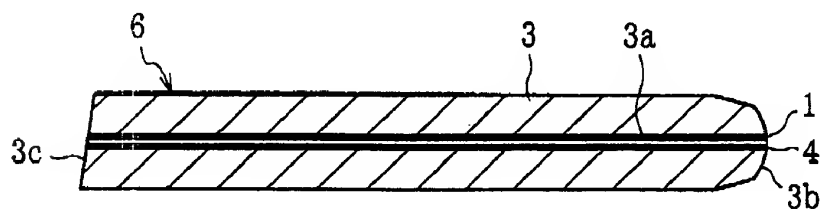
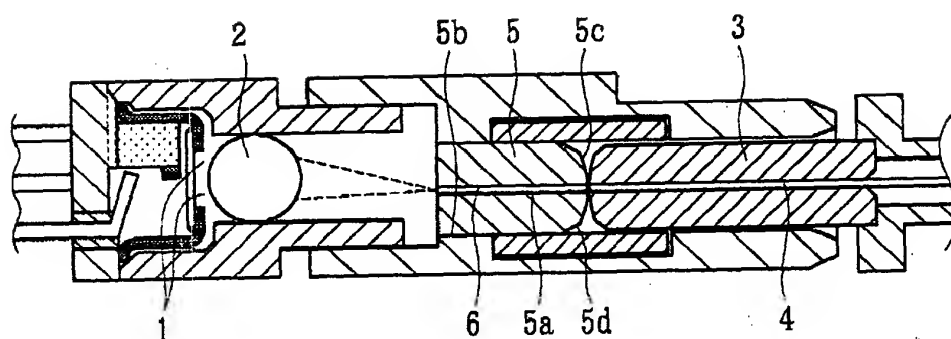


FIG.9 (PRIOR ART)





9/10  
FIG.10 (PRIOR ART)



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10/10

FIG.11 (A) (PRIOR ART)

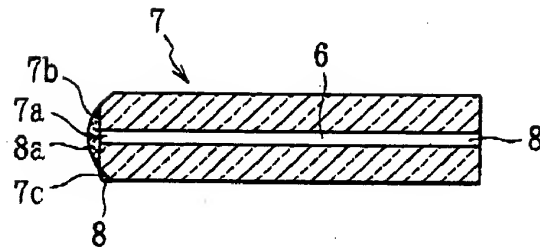


FIG.11 (B) (PRIOR ART)

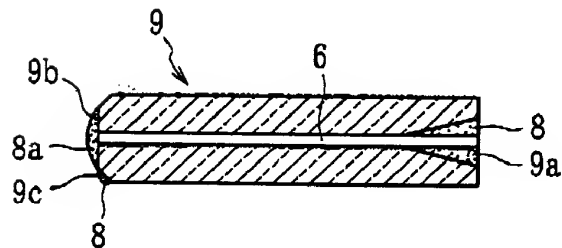


FIG. 11 (A) (PRIOR ART)

TABLE 1

		Sample No.				
		1	2	3	4	5
Composition (Weight %)	SiO <sub>2</sub>	57.8	66.3	67.4	64.3	65.9
	Al <sub>2</sub> O <sub>3</sub>	24.6	18.2	16.6	18.0	18.2
	Li <sub>2</sub> O	2.7	2.3	2.3	2.5	2.0
	K <sub>2</sub> O	7.0	3.4	3.5	5.0	3.4
	TiO <sub>2</sub>	2.8	1.8	3.0	3.0	1.5
	ZrO <sub>2</sub>	3.2	1.8	1.8	2.0	1.8
	ZnO	1.0	3.1	2.0	3.1	3.6
	MgO	—	1.0	1.0	1.0	1.5
	CaO	—	—	—	0.4	0.6
	BaO	—	—	—	0.5	1.4
	B <sub>2</sub> O <sub>2</sub>	—	—	2.0	—	—
	Na <sub>2</sub> O	0.4	—	—	—	—
	P <sub>2</sub> O <sub>5</sub>	—	—	0.4	—	—
	As <sub>2</sub> O <sub>3</sub>	0.5	—	—	0.2	0.1
	Bi <sub>2</sub> O <sub>3</sub>	—	2.1	—	—	—
Condition of crystallization (° C)						
Temperature of nucleation		780	780	790	780	780
Temperature of crystal growth		1000	1000	980	1050	1000
Main crystal		$\beta$ -silica solid solution	$\beta$ -spodumene solid solution	$\beta$ -spodumene solid solution	$\beta$ -spodumene solid solution	$\beta$ -spodumene solid solution